1: Underhill E-5 (1931-1935)1946 NU28 Papago NU28



early December. Only a few went on to Quitovaca, which has a much smaller festival every August. The two ceremonies are so different as to need separate descriptions.

## THE WINTER CEREMONY[3]

The San Xavier calendar stick, which records the important events among the northern villages for the last eighty years, has, regularly every four years, a blue dot to represent the prayer-stick festival at Archie. It was discontinued after 1912, but revived in 1932, and now the Archie people plan to continue it regularly. It is, as has been mentioned, a co-operative effort on the part of Archie and her daughter villages and serves as a general reunion, when every family of Archie stock returns to camp around the mother village and shares in the general blessing.

The villages of this common family are those which occupy one of the typical north and south valleys of Papagueria, extending in this case from Archie on the north to Big Fields on the south. Archie is the oldest settlement and almost contiguous with it is its daughter Santa Rosa, divided into two sections known as the Burnt Seeds and Palo Verde Standing. The other offspring are scattered down the valley, the most important being the ancient town first called Mesquite Root, then Iron Pump and now deserted for Big Fields, where its farms are.

Archie, Santa Rosa, and Iron Pump always join for the prayer-stick festival. With them is the neighbor village Akchin, more distantly related and with offshoots in another valley. Finally they admitted a comparatively new settlement, belonging to people of another dialect who had moved near them. This was Anegam, (place of the willows). These towns co-operate and sing against each other as do *kivas* and moieties in localities of a different organization. All their offshoots and "relatives" come to the ceremony and camp nearby, each identifying itself, for the singing, with its mother village.[4]

[3] Briefly described in Mason, 20.

[4] In the account of the prayer-stick festival for 1932, one informant substituted Palo Verde Standing for Iron Pump, claiming that the latter has now almost no inhabitants. It is former Iron Pump people who live at Palo Verde.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28



[801] times, this was as far as they counted without the aid of sticks and 823 notches. Four directions are recognized, with ceremonial colors. East literally "under the sunrise" is always white, and west, "under the sunset", always black, possibly because a disagreable wind comes from there. North is "the direction from which floods come," its color red or blue. South is "the direction where rubbish is piled" (in floods) but also "the direction of the ocean" and "the direction of suffering," since the Gulf of California, the goal of the arduous salt expedition lay that way. The color of the south is red or yellow.

Papagos have no words for left and right and never speak of the hands or of the directions in that way. Neither do they often use the ceremonial terms for the directions but point with the lips or the hand and use an adverb which means yonder far, yonder near yonder up (which always connotes east and the upward movement of the sun) yonder down, (which connotes west). But they are always conscious of the directions and all ceremonial groups are oriented so that a description of them involves a plan drawn in the sand. The circuit in dancing or passing the ceremonial cigarette is always counter clockwise. In at least one ceremony, the orator speaks first at the east, then north, then south and then, making three quarters of a circuit, comes back to the west.

### TIME RECKONING

●805 The Papago year begins in July with the ripening of the giant-cactus, the beginning of rainy season. There are no standard names for the months, but a number of descriptive terms can be used for each period between one "death of the moon" and the next. Since these describe well known natural phenomena, anyone can recognize a month by any of its appellations. The following are terms frequently used:

| | | |
|---|---|---|
| July | tcuuki(macaṭ) | rain (moon) |
| | haacainyi pa'k | giant cactus ripe |
| August | cópori ĭcapi'k | short planting |
| | kĭ'ĭ tcuupiopi'k | big rain |
| Sept | wácai kákita'k | dry grass |
| Oct | ari tcutcukiopi'k | little rain |
| | wi'khanyi'k | frost |
| Nov | s'kĭĭk s'ĭhpitci'k | pleasant cold (time for games and races) |
| Dec | kĭ'ĭ s'ĭhpitci'k | big cold (month for wiikita) |
| Jan | kíhuta'kc | animals thin |
| Feb | uuwarik | smelling (deer mating, strong smell) |
| | komaki macaṭ | gray moon |

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28



| | | |
|---|---|---|
| March | tcĭĭta'ki macaṭ | green moon (mesquite begins to green) |
| April | ṫam mácaṭ | yellow moon (greasewood and other yellow flowers) |
| May | u'us wihoktari'k | mesquite buds |
| | ko'o'k macaṭ | painful moon (no food yet) |
| June | kaitc tcukuri'k | seeds black |

For indicating the time of day, Papagos still point to the sky and say: "when the sun stands there" or "there". There are definite words meaning the first gray of dawn; the time when objects are visible, sun-rise, midday, sunset and night. Time at night is designated by the position of the Pleiades.

The Pleiades are called the Travellers and they, rather than the sun, are used for designating seasons. The calculation is made from their position at dawn, as follows:

Pleiades rising in summer, start planting
At the zenith at dawn, too late to plant more.
Past the zenith, time for corn harvest
One quarter down from the zenith, time for deer hunting
Setting, time for the harvest feast.

The winter solstice was noted and the sun was considered to stand still then for four days, beginning with the first day on which the Pleiades had set at dawn. The writer heard of no devices for watching the position of the sun itself, as the Pima watch the gap of the Sierra Estrella. The four day solstice period was, with the Papago, a sacred one on which the origin myth was officially told. The explanation of the moon's regular disappearance was that it died every month and a new moon took its place. Both sun and moon were said to die in an eclipse and to resurrect themselves as did Elder Brother in the origin myth.

Several star groups were named, many of them not coincident with our own. The three stars in Orion's Belt were called Deer, Antelope, and Mountain Sheep, while a bright star as short distance away is Wind Man who has just shot an arrow at the sheep and missed. The arrow is a small star, nearly invisible. The Milky Way is called the second harvest of pitahaya (organ pipe cactus) since this harvest is very abundant. The Dipper is the *kuipaṭ*, cactus stick, a long pole with two transverse sticks for hooking the fruit from the top of the saguaro column. Five stars in a semicircle, with five more stretching down at right angles to them are called Elder Brother's Hand and Arm with which he once held up the sky. They may be part of Scorpio. Others not identified are:

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28



Maiden at Puberty with Instructors: — a semi-circle of stars with one bright one in the middle; the Pestle: — two stars horizontal, two vertical; Flock of quail: — a cluster of small stars; the North Star, called the Unmoving Star: — it is the stopper for the hole in the sky through which Buzzard took refuge in the flood.

Papago youth were taught the tribal traditions by listening to the official narrators who told them as often as asked during the winter months, but always during the "four days" of the winter solstice. Beside this ancient history the record of recent events was kept on a calendar stick similar to that recorded for the Pima.[1]

The first entry is in "the year the world went wrong": 1839 while the facturis of Sonora were at war and the southern Papago settlements were broken up. The man who began it was a boy at the time and was "startled" by the catastrophe; so cut a notch in a stick to remember it. However, the earliest Pima stick known had been begun in 1833 so that he may have had model to suggest the idea. The Papago stick was kept first at Standing Rock, then at San Xavier, and there were, besides, one at Anegam and possibly others. Keeping a stick was entirely a personal venture, undertaken by anyone who had enterprise and memory for the task. The keeper stored it in his own house and passed it down to any male descendant capable of memorizing its record.

The San Xavier calendar stick is a length of cactus rib, six feet long and with notches cut on its flat side about an inch apart. Each notch represents a year and is cut after the liquor ceremony which inaugurates the rainy season and the Papago year. In the space between the notches, the keeper of the stick marks any crude device which occurs to him as a means of memorizing the year's events. The symbols are roughly incised and colored with red and blue, made from red clay and greasewood soot. A few simple signs have been worked out, such as a puncture in the middle of the space, representing the quadrennial harvest ceremony and a scratch at the side, meaning a death. Otherwise the symbols are the personal invention of the maker and his successor must learn them by heart.

The San Xavier stick was, until twenty years ago, at Standing Rock in the keeping of the man who began it. He frequently recited its record and some of the older men learned it. At his death, his widow broke the stick and threw it away as a ceremonial act, but two San Xavier men rescued the pieces and copied them. The present custodian is the son-in-law of one of these two, the son having been unable to memorize the symbols. The custodian, in

[1] Russell, pp. 34—38.

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28



reciting the history of the stick, uses the technique of the origin myth: he begins at the beginning and proceeds straight through, without interruption and using as many nights as are necessary. It was by hearing such recitals that he himself learned the record. The writer negotiated with him for pauses at certain points when questions might be asked but he found it very difficult to remember under such circumstances. Papago etiquette requires that the learner shall never interrupt.

### MEMORIZING

Akin to the learning of the calendar record is the learning of rituals. These, as mentioned above, are passed down by their owners to chosen male relatives but when no relative is available, the council itself may ask that a stranger be instructed. The method of instruction is for the teacher to recite the whole ritual through as many times as needed and then for the learner to say it all through. This sounds difficult but there are certain aids to memory in that the directions are always mentioned in order, every episode occurs four times and there are standard poetic phrases always recurring in specific connections. Still, learning a long ritual by this process may take a year.

Understanding the ritual is a separate accomplishment, not possessed by all. The writer found some old men who had spent years in thinking over their memorized material and discussing it with others. But this had been done after the learning was finished: while in the position of pupil, they had no right to ask questions and many of them had never done so. As a result they had learned by rote not only archaic words but misplaced words, and could not understand their own ritual. The habit of learning by heart, with the meaning a secondary consideration and questions forbidden, is to be considered in the teaching of Papagos in modern schools. The doubt and analysis to which White children are conditioned, even before school age, are absent in Papago attitudes and must be taught in school, not taken for granted.

3: Underhill E-5 (1931-1935) 1936
NU28 Papago NU28



he sent for the husband. "Do you beat her?" "Yes," said the man. He was a young man. I remember how he looked at the woman, his wife, while he stood there. "Yes, I beat her. But I want her with me. I'm jealous. I beat her because I think she looks at other men." "I don't look at other men," said the woman crying. So her husband said very quickly: "Oh, I want her back. It's all right." "Will you stop beating her?" "Yes, yes." The woman said: "But he has beaten me already. Many times and for nothing. Let him pay me." "How?" "With his body," said the woman. "Let him be beaten as I was beaten." My father thought about that and he said: "All right. How many stripes?" "Fifty." "You want to kill him," said my father. "I'll make it twenty." So the man knelt down and took off his shirt. The chief did not beat wrong doers himself. He had a messenger who was called the Chief's Leg. That Leg was a man who meant much to me later on. He took the rawhide whip to beat the man, but he did not raise too many welts. Men are sorry for each other.

Another time a father came with his daughter. "This girl will not lie with the man to whom I gave her." My father looked at the new husband who had come, too, and he thought he seemed a good man. "Is it true?" my father said to the girl. "Don't you want this man?" "Yes, it's true I'm afraid." "Well, we'll beat you. Then you can decide." So they tied her hands and the girl whimpered: "I'll take him." "Take her by the hand," my father told the husband, "and lead her home. If she misbehaves, come back."

I thought about that girl sometimes and I thought I would have been afraid, too. Then I asked my mother, though I did not tell her how I was feeling. My mother said: "It's right to be afraid of men. All good girls are."

We girls never saw men except our brothers. And our brothers kept away from us now we were almost maidens. They said that sometime we might become maidens suddenly and then if they touched anything that we had touched, it would take away their strength. So the boys did not play with us any more.

But I used to think about boys when I was—let me see, we do not count our ages—thirteen. Sometimes I thought I heard flutes at night. I do not know if it was really boys playing them or if I only dreamed it. But the music drove me wild. The flute is what our boys play when they want a woman to come to them and I wanted to go.

But my father said to me: "Never talk to a man alone. If one comes to the house when there is no one there but you, then offer him food. If he is a relative, say: 'Wait till I cook you something.' Even if he is a stranger, say: 'You had better eat.' But do not talk while you feed him. And if you have nothing in the house tell him quickly so he will go away and not wait, expecting."

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NV28
Pima NV29



was on a lower technological level than that of the irrigated valleys of Sonora, these Indians were relatively good farmers. Despite the fact that they, particularly the Papago, cultivated small acreages, they did so intensively. The supreme Piman virtue was industry. The farmer arose before sunrise, worked without cessation until near noon and rested during the hottest part of the day, then continued work until dark. The heat prevented rapid labor, hence his toil was slow and plodding but unremitting.

• • •

## Utilization of Native Wild Plants

In the Papago region certain wild staple foods grew in abundance and were extensively utilized. Highly important among these were the fruits and seeds of sahuaro *(Carnegiea gigantea)*, and, in the southern part of Pimería Alta, organ-pipe cactus or pitajaya[67] *(Lemaireocereus Thurberi)*. Of such value was sahuaro that each family established a permanent camp in the nearest available cactus area; its significance is further indicated by the fact that sahuaro harvest marked the beginning of the new year in the calendars of both Papago and Pima. Kino noted the extensive use of pitajayas in the Indian diet in traveling among Papagos from the Gila River to La Concepción (Caborca), as well as in the vicinity of San Luis Bertrando where he observed that the numerous pitajayas lasted the Papago until December.[68]

Another very outstanding food was cholla buds, fruits and joints, and some informants regarded cholla buds of even more importance than sahuaro fruit. Buds of the abundant *Opuntia echinocarpa* and of the jumping cholla *(O. fulgida)*, gathered in May, and the fruit, which ripened in late summer, were pit-baked and constituted staple foods, while the fruit and sometimes buds and young joints of the vari-colored

[67] Pitajaya or pitaya here refers to the fruit of either or both *Carnegiea gigantea* and *Lemaireocereus Thurberi*; sahuaro invariably refers to *Carnegiea gigantea*.

[68] Bolton, *Kino*, I, 256.

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU28
Pima NU29

## Chapter VII

# PLANTING, IRRIGATION AND CULTIVATION

### The Piman Calendar

The Piman calendar is associated with seasonal weather and the appearance and characteristics of plants and animals. The calendar month (moon) is the lunar month, thus there are twelve such periods, although their duration evidently is not precisely designated. Our information agrees with that of Underhill,[1] that there existed no standard names for months but descriptive terms for each period between one "death of the moon" and the next. Informants said the periods, or moons, began two nights before the appearance of the new moon. The Piman year began in July with the ripening of giant cactus, which was also the beginning of the rainy season and regarded as the best time of the year. The number of periods or moons in the calendar was identical with the typical number of tail feathers in the song bird—twelve.

We were fortunate in securing the names and order for the Papago moons as Chico Bailey was fairly well informed on such matters. In this we were ably assisted by Father Bonaventura Oblasser, who was especially helpful in ironing out difficulties of interpretation, since he, too, had some knowledge of the calendar and also spoke Papago. A specific attempt was made to secure precise calendric sequence in relation to its bearing upon the agricultural picture. It was impossible to secure the Pima calendar, for our informants knew little about it, the extent of their knowledge being the names for two or three moons. Although our calendar does not equate fully with either of those given by Russell[2]

1 Underhill, *Papago*, p. 124.
2 Russell, *Pima*, p. 36.

5: Castetter & Bell N-5 (1938-1940 1942
NU28 Papago NU28
Pima NU29



Pi for the Pima or with the Papago calendar of Lumholtz,[3] it Pa does correspond very closely with that of Underhill. 805

*The Papago Calendar*

1. Sahuaro-harvest or rainy moon. Corresponds to very late June and much of July. This is the period when the bulk of the planting was done.
2. Short-planting moon (Late Planting). Planting might also be done as late as this if the ground were moist, but it meant a short growing season and the risk that crops might not ripen before frost. Equates partly with August.
3. Dry-grass moon. The time when grass becomes dry. September.
4. Frost moon. The harvest season. October.
5. Small, slight or pleasant winter. Weather beginning to get cold. Games were now held. November.
6. Big-winter or big-cold moon. The coldest period of the year. December.
7. No-more-fat moon. Deer and other game begin to get thin. Equates approximately with January.
8. Smell moon. Deer in the mountains mating and begin to smell because in heat. Also known as gray moon, because the vegetation is without leaves and has a grayish color. Late January and early February.[4]
9. Green moon. The season when native vegetation begins to get green. Approximately equivalent to March.
10. Yellow moon. Called thus because many plants now are in yellow bloom, particularly the white brittlebush *(Encelia farinosa)*, creosote bush and paloverde. April.

[3] Lumholtz, *New Trails*, p. 76.

[4] A. A. Nichol, Leader, Federal Aid Division, Arizona Game and Fish Commission, has informed us in personal correspondence, Aug. 5, 1941, that the bulk of the breeding in both Arizona whitetail and desert mule deer comes in late January and early February. There is a twenty to twenty-three day spread between the climactic periods, the first not coming until after the first week in January. Thus the major portion of the rut would come early in February. Farther north in Arizona the rutting season is known to occur considerably earlier. The role of temperature in the development and maintenance of the rut in red deer has been discussed by Darling in his book, *A Herd of Red Deer*, pp. 166-67.

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NV28
Pima NV29



11. Painful or hunger-hurting moon. Another name sometimes used was "mesquite in flower." Crops were now exhausted and wild foods not yet available. This was before they grew wheat. May.
12. Black-seeds moon. Seeds of certain native plants were now ripe and black. June.

The Pimans had no great store of star lore but a few constellations were recognized. We found it difficult to ascertain much about such knowledge among the Pima, since informants had only fragmentary bits of information; it is much better preserved among the Papago. Observation of celestial movements in relation to their bearing upon planting time seems to have been the function of delegated individuals. Anciently, among the Pima, the headmen called the men together about six days before it was time to plant the several crops, and the individual in charge of calendric sequence told the people the time had arrived to begin planting.

Roughly the Pleiades (known as The Travelers) are used to indicate the seasons, calculations being made from their position at dawn. We can do no better than present Underhill's statement of seasonal sequence in this connection:

> "Pleiades rising in summer, start planting.
> At the zenith at dawn, too late to plant more.
> Past the zenith, time for corn harvest.
> One quarter down from the zenith, time for deer hunting.
> Setting, time for the harvest feast."[5]

Days were known to be of different lengths. The winter solstice—an accepted sacred period of four days—was observed and began with the first day on which the Pleiades had set at dawn.

The Papago paid little attention to relative positions of the sun, and, like Underhill,[6] we were unable to learn of any devices for such observations. The Pima depended on the

[5] Underhill, *op. cit.*, p. 125.
[6] *Ibid.*

5: Castetter & Bell N-5 (1938-1940 1942
NU28 Papago NU28
Pima NU29



relation of the sun to the gap of the Sierra Estrella, the chief purpose being to determine the latest period at which it was possible to plant crops and have them mature before frost. Chico Bailey said his grandfather relied upon the position of the rising sun with reference to a certain point on Baboquivari Mountain to determine when it was too late to plant; also that the Papagos at Pisinemo used a similar spot in the Ajo Mountains for the same purpose.

Tribal Papago traditions were passed on by word of mouth from official narrators to the youths. While these tales might be told at any time upon request, particularly in winter months, the creation myth was always formally and officially related during the sacred four-day solstice period. Pima and Papago annals, in reality records of important events, were kept on a stick variously notched or carved to designate special happenings.[7]

## Planting

### *Time and Number of Plantings*

Wherever any group of Pimans anciently pursued agriculture based upon irrigation from more or less permanently running streams or springs, planting was begun as soon as possible after danger of frost had passed, contingent upon an available supply of water at such time. But among all those Pimans who were dependent upon flood water from the washes the time of the single planting was governed entirely by the occurrence of summer rains, which usually began at any time from late June to mid-July. Aboriginally, groups having a rather constant supply of running water usually made two plantings, the first when danger of frost was past and the ground warm enough for seed germination, the second sometime after sahuaro harvest, depending upon the availability of water for irrigation, but rarely any later than mid-August because of danger from early frosts. Thus, in

[7] *Ibid.*, pp. 125-56; Underhill, *A Papago Calendar Record;* Russell, *op. cit.*, pp. 31-66.

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28



here also bees deposit their honey and bats make their homes. Sometimes rabbits attack the stem to get at the juicy pulp.

To the Indians the sahuaro is invaluable, and by tacit understanding they consider it a crime to cut one down. The grateful fruit comes at a time when most needed, and the Indians leave their habitations to camp among the sahuaro as long as the season lasts. Not only does the fruit then furnish them with their principal means of subsistence, but the greater part is boiled down to a sirup for future consumption in the winter, serving also as material for an intoxicating drink, which is used at the sahuaro festival. The seeds, too, are eaten after having first been ground on the metate, and they taste better than would be expected; the Indians also feed their fowls with them and many sackfuls are brought back to the houses after the sahuaro harvest. The wooden skeletons or ribs of the sahuaro furnish the Papago with light, strong, and elastic building stuff, and from the same material he makes the long stick which is needed to bring the fruit down from its lofty elevation, coloring the pole red with the juice of the fruit. Also chicken coops, chairs, traps, and similar articles of the household are manufactured from sahuaro ribs. Even the wooden tissue bags produced by the woodpeckers are made to serve as water bottles or drinking vessels.

So important a part does this cactus play in the life of the Papago that their year begins with the sahuaro harvest. The season lasts from the middle of June till the middle of July. Every rancheria is supposed to make

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28



the moonlight. "*Compañero,*" he said, ejaculating a few more words in unintelligible Spanish, at the same time thrusting forward a big open bottle with bright red contents, the smell of which at once made me aware of the situation. He was offering me sahuaro wine as a proof of his esteem. But he might have chosen a more reasonable hour for his hospitality, so I bluntly answered: "No; I will have nothing until I get up." He disappeared among the bushes as quietly as he had come; in fact, he did not give me time to ascertain what had become of him, and it seemed like an unpleasant dream. However, being desirous of getting some rest before the ceremonies that were sure to take place at sunrise, I fell asleep again after a while.

The wine did not mature as early as expected, and in the morning one of the principal men told the people to gather when the sun would be half-way between noon and sunset, when the culmination of the feast would take place. One of the Indians confided to me that the people thought I was all right; I danced with the proper step. Gradually crowds began to assemble, many of the young men on horseback; slender of figure but above medium height, they were of prepossessing appearance, sitting erect and following well the movements of the horse. Everybody was in his best attire, all adopted from the whites, and everybody, both men and women, looked clean. But there was no hurry about anything. After a few hours passed in this way, the Keeper of the Smoke, who was the general manager of all the proceedings, was seen to spread out blankets and mats on the dancing

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28



reach the camp of the man who possessed the calendar record of which the Indians had told me. It grew pitch dark before our day's journey was over, a large blazing fire, which enlightened us as to the position of the camp, guiding us from some distance. Our arrival naturally caused surprise, but was easily explained, and the man promised to show his calendar stick the next morning.

This calendar, which, as far as I know, is the only one existing in the tribe, is an attempt at keeping a record of events by various marks on a wooden stick. Made from pine board, it is seventy-nine inches in length and one and one-quarter inches broad at the middle, narrowing toward the ends, and about an inch thick at the centre, which is the thickest.

The old man, when fifteen years of age, had taken it into his head to begin a record of the events of his life, giving to each year a space of about an inch on the stick, separating one year from another by a transverse notch. He thus made one notch for each year that passed, and their number had now reached sixty-seven. The events of the year are depicted by crosses, dots, lines in various positions, as zigzags, angles, parallels, etc., and, as they have significance and meaning only to him, are less interesting from the point of view of the markings than from the events recorded. More than one kind of mark is rarely applied for each year. As the record of happenings that appeared to him important, accompanied by his own explanations, may be of interest, I shall give here the principal ones:

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28



159 During recent years he has been blind, but a friend and his wife have assisted him in placing marks according to his directions. The event of this ensuing year would be the visit of "Carlos" to his sahuaro camp, he 805 said. I append here the Papago calendar which divides the year into thirteen "moons," or *marsat* in the native language.

THE PAPAGO CALENDAR

1. Tonjapik Marsat, Hot Moon (*tonj*, hot).
2. Tjokiapik Marsat, Rainy Moon.
3. Shópol Usapik Marsat, Short Planting Moon.
4. Vársa Kakitak Marsat, Dry Grass Moon (*kákitak*, dry).
5. Vihamik Marsat, Touches Mildly Moon. (The cold touches mildly.)
6. Jómali Súipitik Marsat, Low Cold Moon (*jŏmali*, low).
7. Úta Váokat Marsat, Inner Bone Moon. (The middle of the winter.) It is also called Ku Súipitik, Big Cold.
8. Óvalik Marsat, In Heat Moon. (When the animals are in heat.)
9. Kíhotak Marsat (untranslatable). Meaning: When the animals have lost their fat.
10. Kómaki Marsat, Gray Moon (*kómak*, gray). (When the trees are without leaves.)
11. Tjuutáki Marsat, Green Moon (*stjuutak*, light blue or light green).
12. Oám Marsat, Yellow Moon (usually *suváni*, yellow). (Yellow flowers on trees, bushes, and plants, such as the palo verde, the greasewood, century plants and cacti.)
13. Hikokiapik Marsat, Flowers Disappear Moon. (Plants begin to make fruit.)

124 The old man was amply rewarded for his interview and consented to be photographed, though his wife, with the usual Papago ignorance of money value, prevented

17:Castetter & Underhill N.E-5 (1931-1934) 1935
NU28 Papago NU28

# UNCULTIVATED PLANTS USED AS SOURCES OF FOODS, BEVERAGES, SMOKING, AND CHEWING MATERIALS

## 1. Foods

The Papagos, like other peoples in the area, exploited the vegetable resources of the desert to the utmost, and the same plant at different seasons would provide not only roots, greens or fruits for food, but twigs for basketry, wood for implements or sap for dye.

In years when the rainy season was late they lived entirely on wild foods without planting at all. When the foods ripened, during or after the rainy season, enough was gathered and stored to last throughout the year, but just before the giant cactus harvest, food became very scarce, as is indicated by one of their names for May, *ko'ohk macat*, "the painful moon."

Some foods like the hackberry were simply used by the people in the neighborhood, while others like agave and acorns were gathered by special parties and either utilized or traded. There was one island of unusual flora on Elder Brother's mountain, Baboquivari. Here, near a permanent stream, grew the special luxuries he had provided for his people, and parties went to pick them for trade or on behalf of a village. Certain staples, however, grew in great quantity and these were gathered by everybody.

Different parts of the territory used different magical practices to insure a good crop, the most common being to make effigies of the desired fruits and plant them in the gathering grounds after a night of ritual singing. Sometimes merely an ironwood stake *(Olneya tesota)* was planted instead of the effigy.

When a crop was reported ripe the village organized its food gathering expedition. If the expedition were for